REMARKS/ARGUMENTS

Claims 1-37, 39 and 61 were pending in this application when the Final Office Action was mailed on September 19, 2002. Claims 13, 15, 17-37 and 39 have been cancelled and claims 1, 14 and 16 have been amended. New claims 62-67 have been added to depend from allowed claim 61.

In the Final Office Action mailed September 19, 2002, claims 1-37 and 39 were rejected and claim 61 was allowed. More specifically, the status of the application in light of this Office Action is as follows:

(A) Claims 1-28 and 39 stand rejected under 35 U.S.C. § 112, first paragraph;

(B) Claims 1-4, 6-10, 13, 17-26, 28-33 and 35 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,086,018 to Conru ("Conru");

(C) Claims 15 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Conru;

(D) Claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Conru in combination with U.S. Patent No. 5,335,225 to Doan ("Doan");

(E) Claims 11, 14, 36, 37 and 39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Conru or in the alternative over Conru and U.S. Patent No. 5,932,345 to Furutani ("Furutani");

(F) Claim 27 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Conru in combination with U.S. Patent No. 6,013,535 to Moden ("Moden"); and

(G) Claim 61 is allowed.

A. Response to the Section 112 Rejections

Claims 1-28 and 39 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter which was not described in the specification in such

a way as to reasonably convey to one skilled in the art that the inventors have possession of the claimed invention at the time the application was filed. The Office Action specifically alleges that the composition of the materials having the claimed range of dielectric constants was not adequately disclosed. Without commenting on the merits of the specifics of the Section 112 rejection, applicants respectfully submit that claim 1, as amended, no longer includes a dielectric constant range. Accordingly, the Section 112 rejection of claim 1 should be withdrawn. For the reasons discussed above, the Section 112 rejection of claims 2-10 and 12 should also be withdrawn. Claims 11 and 13-15 have been cancelled and accordingly, the Section 112 rejection of these claims should be withdrawn. Claim 16 has been amended to be in independent form and to exclude the limitation regarding the dielectric constant value. Accordingly, the Section 112 rejection of claim 16 should be withdrawn. Claims 17-29 and 39 have been cancelled and accordingly, the Section 112 rejection of these claims should be withdrawn.

B. Response to the Section 102 Rejections

Claims 1-4, 6-10, 13, 17-26, 28-33 and 35 were rejected under 35 U.S.C. § 102(b) as being anticipated by Conru. Claim 1 has been amended to include features generally similar to those described in greater detail below with reference to claim 16. Accordingly, for the reasons discussed below, claim 1 is now patentable over Conru. Claims 2-4 and 6-10, which depend from claim 1, are patentable for the reasons discussed below and for the additional features of these dependent claims. Claims 13, 17-26, 28-33 and 35 have been cancelled and accordingly, the Section 102 rejections of these claims are now moot.

C. Response to the Section 103 Rejection of Claims 15 and 16

Claims 15 and 16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Conru. The Office Action alleges that Conru's process inherently creates a gas, and U.S. Patent No. 5,569,625 to Yoneda ("Yoneda") was relied upon as providing evidence of this inherency. Claim 15 has been cancelled and accordingly the Section

102 rejection of claim 15 is now moot. The following discussion addresses the Section 102 rejection of claim 16.

1. Claim 16 Is Directed to a Method for Processing a Circuit Board With a Dielectric Material Including Argon and/or Helium Disposed Between Conductive Traces

Claim 16 has been amended to be an independent form. Accordingly, claim 16 is directed to a method for processing a circuit board for coupling to a microelectronic substrate and includes providing a circuit board having conductive trace portions that are spaced apart to define in intermediate region. A dielectric material is disposed in the intermediate region and is selected "to include argon and/or helium."

2. Conru Discloses an Adhesive for Bonding Wires and Leadframes

Conru discloses a method for improving the bonds between gold wires 16 and leadframe conductors 14 in a packaged microelectronic device. The method includes disposing a film 18 having an adhesive 17 over the leadframe 10 and gold wires 16 to improve the bonding between these two components.

3. Yoneda Discloses a Process for Eliminating the Gas Generated During a Packaging Process

Yoneda discloses in prior art Figure 2 a resin package 7 which includes electrode members 5 and 6 bonded to a stage 4, which in turn supports a chip 2. The electrode members 5 and 6 are connected via adhesive tapes 8 and 9. Yoneda also discloses leads 3 connected with wires 10c to the electrode members 5 and 6. The adhesive tapes 8, 9 are spaced apart from the leads 3. Yoneda further discloses that during a heating process used to produce a semiconductor device 1, the adhesive tape 9 outgasses, reducing the adherence between the resin package 7 and the electrode members 5 and 6, and between the resin and the leads 3. Yoneda solves this problem by eliminating the adhesive tapes 8, 9 and accordingly disclosing a process for which no outgas is generated.

4. Conru and Yoneda Fail to Support a Section 103 Rejection of Claim 16

Assuming for the sake of argument (and as suggested by the Examiner) that Yoneda's discussion of the prior art discloses an outgassing process that is inherent in Conru's process, then these two references together disclose outgassing a material from an adhesive in an undesirable manner that reduces the adhesion between components in a microelectronic package. However, neither reference alone or in combination discloses or suggests "disposing in the intermediate region between the conductive traces a dielectric material [selected] to include argon and/or helium," as recited in claim 16. For example, neither Conru nor Yoneda disclose argon or helium in a packaged device. In fact, to the extent that Yoneda suggests anything at all with regard to gas in an encapsulated microelectronic device, Yoneda discloses and suggests method for eliminating such a gas. Accordingly, the references taken alone or together do not disclose or suggest the features of claim 16 and therefore, the Section 103 rejection of claim 16 should be withdrawn.

Claim 14 has been amended to depend from claim 16 and is accordingly patentable over the applied references for the reasons discussed above and for the additional features of claim 14.

D. Response to the Section 103 Rejection of Claim 5

Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Conru in combination with Doan. Claim 5 depends from claim 1, which has been amended to include features generally similar to those described above with reference to claim 16. Doan fails to cure the deficiencies of Conru and Yoneda described above. Accordingly, claim 5 is patentable over the applied references for the reasons discussed above with reference to claim 16 and for the additional features of claim 5.

E. Response to the Section 103 Rejection of Claims 11, 14, 36, 37 and 39

Claims 11, 14, 36, 37 and 39 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Conru or in the alternative, over the combination of Conru and

Furutani. Claims 14, 36, 37 and 39 have been cancelled and accordingly, the Section 103 rejections of these claims are now moot. Claim 11 depends from claim 1, which as discussed above, include features generally similar to those of amended claim 16. Furutani discloses an adhesive film suitable for leadframe fixing tapes, and further discloses such adhesive films as having a dielectric of three or less than three. However, Furutani fails to cure the defects of Furutani and Yoneda described above. Accordingly, claim 11 is patentable over the applied references in the Section 103 rejection of claim 11 should be withdrawn.

F. Response to the Section 103 Rejection of Claim 27

Claim 27 has been cancelled and accordingly the section 103 rejection of claim 27 is now moot.

G. Response to the Allowance of Claim 61

Claims 61 was indicated in the Final Office Action to be allowed. Claims 62-67, generally similar to dependent claims originally filed in this application, have been added to depend from claim 61. Accordingly, these claims should be allowed as depending from an allowable independent claim and for the additional features for these dependent claims.

H. Conclusion

In view of the foregoing amendments and remarks, the claims pending in the application comply with the requirements of 35 U.S.C. § 112 and patentably define over the prior art. As the present amendment is believed to place the application in condition for allowance, entry of the amendment is proper under 37 C.F.R. § 1.116 despite the finality of the outstanding Office Action, and a Notice of Allowance is respectfully requested. If the Examiner believes a telephone conference would

expedite prosecution of this application, the Examiner is encouraged to call John Wechkin at (206) 287-3257.

Respectfully submitted,
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